

What is claimed is:

- 1 1. A method comprising:
  - 2 calculating link margin for a wireless device using a received power level
  - 3 indication and receiver sensitivity indication; and
  - 4 adjusting at least one of transmit data rate and transmit power level for the
  - 5 wireless device based on link margin.
- 1 2. The method of claim 1, wherein:
  - 2 said wireless device is a wireless client device for use in a wireless network; and
  - 3 said received power level indication includes a received power level (RPL)
  - 4 value.
- 1 3. The method of claim 1, wherein:
  - 2 calculating includes determining a difference between said received power level
  - 3 indication and said receiver sensitivity.
- 1 4. The method of claim 1, wherein:
  - 2 adjusting includes selecting a transmit data rate by determining which of a
  - 3 plurality of ranges said link margin falls within.
- 1 5. The method of claim 1, wherein:
  - 2 adjusting includes entering a power reduction loop when said link margin
  - 3 exceeds a predetermined level.
- 1 6. The method of claim 1, further comprising:
  - 2 determining receiver sensitivity, before calculating link margin, based on a data
  - 3 rate of a received signal.
- 1 7. The method of claim 6, wherein:
  - 2 said received signal is a received beacon signal.

1       8.     The method of claim 1, wherein:  
2                 adjusting includes selecting a maximum data rate and decreasing a transmit  
3         power level when said link margin exceeds a predetermined value.

1       9.     A wireless device comprising:  
2                 a wireless transceiver;  
3                 a link margin determination unit to determine a link margin associated with the  
4         wireless transceiver; and  
5                 a transmit data rate determination unit to select a transmit data rate for the  
6         wireless transceiver based on link margin.

1       10.    The wireless device of claim 9, wherein:  
2                 said transmit data rate determination unit selects said transmit data rate by  
3         determining which of a plurality of link margin ranges said link margin falls within.

1       11.    The wireless device of claim 10, wherein:  
2                 said transmit data rate determination unit selects a maximum data rate when  
3         said link margin exceeds a predetermined value.

1       12.    The wireless device of claim 9, further comprising:  
2                 a transmit power determination unit to adjust a transmit power level of the  
3         wireless device based on link margin.

1       13.    The wireless device of claim 12, wherein:  
2                 said transmit power determination unit enters a power reduction loop when said  
3         link margin exceeds a predetermined level.

1 14. The wireless device of claim 9, wherein:  
2 said link margin determination unit determines said link margin by calculating a  
3 difference between a received power level indication and a receiver sensitivity of said  
4 wireless transceiver.

1 15. The wireless device of claim 14, wherein:  
2 said receiver sensitivity is estimated based upon a receive data rate.

1 16. The wireless device of claim 14, wherein:  
2 said wireless device is a wireless client device for use within a wireless local  
3 area network; and  
4 said received power level indication includes a received power level (RPL)  
5 value.

1 17. An article comprising a storage medium having instructions stored thereon that,  
2 when executed by a computing platform, result in:  
3 calculating link margin for a wireless device using a received power level  
4 indication and receiver sensitivity indication; and  
5 adjusting at least one of transmit data rate and transmit power level for the  
6 wireless device based on link margin.

1 18. The article of claim 17, wherein:  
2 calculating includes determining a difference between said received power level  
3 indication and said receiver sensitivity.

1 19. The article of claim 17, wherein:  
2 adjusting includes selecting a transmit data rate by determining which of a  
3 plurality of ranges said link margin falls within.

1       20.    The article of claim 17, wherein:  
2               adjusting includes entering a power reduction loop when said link margin  
3        exceeds a predetermined level.

1       21.    A wireless device comprising:  
2               at least one dipole antenna;  
3               a wireless transceiver coupled to said at least one dipole antenna;  
4               a link margin determination unit to determine a link margin associated with the  
5        wireless transceiver; and  
6               a transmit data rate determination unit to select a transmit data rate for the  
7        wireless transceiver based on link margin.

1       22.    The wireless device of claim 21, wherein:  
2               said transmit data rate determination unit selects said transmit data rate by  
3        determining which of a plurality of link margin ranges said link margin falls within.

1       23.    The wireless device of claim 21, further comprising:  
2               a transmit power determination unit to adjust a transmit power level of the  
3        wireless device based on link margin.

1       24.    The wireless device of claim 21, wherein:  
2               said at least one dipole antenna includes multiple dipole antennas in an antenna  
3        diversity arrangement.

1       25.    A method comprising:  
2               selecting a transmit data rate for a wireless transceiver based on a calculated link  
3        margin; and  
4               entering a power reduction loop to reduce a transmit power level of said  
5        wireless transceiver when said calculated link margin exceeds a predetermined level.

1       26.   The method of claim 25, wherein:  
2           selecting a transmit data rate includes determining which of a plurality of ranges  
3        said link margin falls within.

1       27.   The method of claim 25, wherein:  
2           selecting a transmit data rate includes selecting a maximum data rate when said  
3        calculated link margin exceeds said predetermined level.

1       28.   The method of claim 27, wherein:  
2           said maximum data rate is user specified.

1       29.   The method of claim 25, wherein said power reduction loop includes:  
2           reducing a transmit power level by a first predetermined amount and  
3        transmitting a signal;  
4           determining whether an acknowledgement signal has been received in response  
5        to transmitting said signal; and  
6           when an acknowledgement signal has been received in response to transmitting  
7        said signal, repeating reducing and determining.

1       30.   The method of claim 29, wherein said power reduction loop further includes:  
2           when an acknowledgement signal has not been received in response to  
3        transmitting said signal, increasing said transmit power level by a second predetermined  
4        amount.